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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/520,927	03/08/2000	Edward J. Cleary JR.	6960 US	1687

7590 05/30/2003
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EXAMINER

YANG, RYAN R

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 05/30/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/520,927

Applicant(s)

CLEARY ET AL.

Examiner

Ryan R Yang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 3-6 and 10-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: Amendment, filed on 3/26/03.
This action is non-final.
2. Claims 1-15 are pending in this application. Claim 1 is independent claims.
3. The present title of the invention is "Surround Sound Display" as filed originally.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Gibson. (5,812,688).

As per claim 1, Gibson discloses a surround sound display representing a plurality of sound channels comprising:

a sound stage image (Figure 5);

a correlation meter scale for each sound channel of the sound stage image that has a corresponding sound channel to form a stereo sound source (Figure 5 X-AXIS 218); and

markers related to the correlation meter scale that represent the correlation between the corresponding sound channels (Figure 7A where the outer boundary of the sphere is the marker represents correlation between the corresponding sound channels).

6. As per claim 2, Gibson demonstrated all the elements as applied to the rejection of independent claim 1, supra, and further discloses the sound stage image comprises speaker images positioned at appropriate positions of the display to represent sound sources (Figure 4 212, 214).

7. As per claim 7, Gibson demonstrated all the elements as applied to the rejection of independent claim 1, supra, and further discloses the markers comprise a pointer for each sound channel, the location of the pointer along the correlation meter scale indicating the correlation between the corresponding sound channels (Figure 8a where the edge of the sphere in the X-direction is the marker indicating correlation between the corresponding sound channels).

8. As per claim 8, Gibson demonstrated all the elements as applied to the rejection of dependent claim 7, supra, and further discloses the markers comprises a fill area spanning the correlation meter scales for the stereo corresponding sound channels, the width of the fill area indicating the correlation between the corresponding sound channels (Figure 8a where the sphere is solid).

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9. As per claim 9, Gibson demonstrated all the elements as applied to the rejection of dependent claim 8, *supra*, and further discloses the thickness of the fill area indicates the amplitude of the stereo channels ("density of the sphere is correlated to amplitude", column 5, line 43-44).

10. Claims 1 and 7-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Everett et al. (6,532,024).

As per claim 1, Everett et al., hereinafter Everett, discloses a surround sound display representing a plurality of sound channels comprising:

a sound stage image (Figure 5 226);

a correlation meter scale for each sound channel of the sound stage image that has a corresponding sound channel to form a stereo sound source (Figure 5); and

markers related to the correlation meter scale that represent the correlation between the corresponding sound channels (Figure 5 where markers of -1 to +1 scale for each of the stereo channel represent correlation between the corresponding sound channels).

11. As per claim 7, Everett demonstrated all the elements as applied to the rejection of independent claim 1, *supra*, and further discloses the markers comprise a pointer for each sound channel, the location of the pointer along the correlation meter scale indicating the correlation between the corresponding sound channels (Figure 5 where the edge of the marker is the pointer).

12. As per claim 8, Everett demonstrated all the elements as applied to the rejection of dependent claim 7, *supra*, and further discloses the markers comprises a fill area

spanning the correlation meter scales for the stereo corresponding sound channels, the width of the fill area indicating the correlation between the corresponding sound channels (Figure 5 where the markers fill an area and form an width to indicate the correlation between the corresponding sound channels).

Claim Rejections - 35 USC § 103

13. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

14. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Everett et al. as applied to claim 1 above, and further in view of Gibson (5,812,688).

As per claim 2, Everett demonstrated all the elements as applied in the rejection of independent claim 1, supra.

Everett discloses a method of displaying sound stage image. It is noted that Everett does not explicitly disclose the sound stage image comprises speaker images positioned at a appropriate positions of the display to represent sound sources, however, this is known in the art as taught by Gibson. Gibson discloses a visual image representation method of audio signals in which the speaker images are positioned at appropriate positions of the display to represent sound source.

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Gibson into Everett because Everett discloses a sound stage displaying method to display correlation of sound and Gibson discloses a method of displaying the sound source in order to closely simulate the aural environment.

Allowable Subject Matter

15. Claims 3-6 and 10-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As per claim 3, the closest prior art by Everett does not explicitly disclose the sound stage image comprises a listener mage positioned in the center of the display.

As per claims 4 and 10, the closest prior art by Everett does not explicitly disclose the correlation meter scale comprises a bent scale for each corresponding sound channel representing correlation values between +1 and -1 at opposing ends of the bent scale.

As per claim 13, the closest prior art by Everett does not explicitly disclose the truncated wedges representing the corresponding sound channels have a plurality of truncated edges, at least one of the truncated wedges having a fixed width representing a central audio source and the other truncated wedges representing the corresponding sound channels with a variable width, the variable width indicating the correlation between the corresponding sound channels.

Response to Arguments

16. Applicant's arguments with respect to claims 1-2 and 7-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Inquiries

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ryan Yang** whose telephone number is **(703) 308-6133**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Michael Razavi**, can be reached at **(703) 305-4713**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

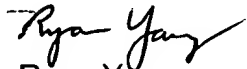
or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 305-47000377.



Ryan Yang
May 25, 2003